

sists essentially of securing particularly vigorous, actively growing yeast plants, which are transferred directly to moist slabs of plaster of Paris, on which they develop the spores very rapidly. The sudden change from the condition with abundance of nutriment to one with almost total absence of it, appears to call out the extreme reproductive safeguard of the species against annihilation.

Hansen advocates starting with pure cultures, from which some cells of yeast are transferred to beerwort for a short time at common room temperature, then a small quantity of the active cells is again removed to fresh beerwort for 24 hours at a temperature of 26–27° C. A supply of the cells thus obtained is sown upon sterilized blocks of plaster of Paris, which are made sufficiently moist to slightly glisten, and are afterward kept in a moist chamber at proper temperature.

The method followed in my laboratory was to add a little yeast, taken from a fresh cake of Fleischmann's compressed yeast, to a Pasteur solution. In a day or two, when the disengagement of gas showed that the yeast was in active growth, the liquid was poured out of the flask, some of the flocculent material adhering to the glass was spread upon the surface of a freshly made cake of plaster of Paris, which was barely moist, and the whole was covered to prevent drying out. The cakes were made by stirring water into powdered plaster of Paris and allowing it to harden in a shallow covered dish. In a few days a most abundant crop of ascospores was obtained. The spores are easily colored with methyl violet; and fine permanent mounts may be made by the coverglass method as used for bacteria.

The work was carried out by Messrs. Wright and Van Pelt of the present senior class.—J. C. ARTHUR, *Purdue University, La Fayette, Ind.*

EDITORIAL.

THERE IS a wide field for American ingenuity in devising new adaptations of apparatus used in other departments, and in inventing new forms of apparatus, with which to illustrate the main truths of vegetable physiology. Much work of this kind must be done before the science can be so generally taught in high schools and colleges as its position as a fundamental science demands. Special forms of apparatus will naturally be brought out to meet the requirements of investigators working in original lines, which will enrich the available supply, but new methods of making old truths clear by means of

simple yet well constructed apparatus, are needed in all present laboratories. Not only do we need new kinds of apparatus, but it is also a matter of moment to know where both the old and new forms can be purchased at a reasonable price and without too great delay. At the present pedagogical stage of the science it is possible to buy only a few pieces that the books describe, and those must largely be imported at a cost that in some cases effectively excludes them from many laboratories. The annoyance of determining proportions, making drawings and carefully describing the required pieces in order to have them made to order, even for glassware, is too laborious and time-consuming to permit of doing much of it. At present many teachers are driven to making their own apparatus as best they can, which as a rule is not an economic expenditure of the teacher's time or of the institution's funds. Until the facilities for purchase, which now obtain for microscopical, physical, chemical and other kinds of apparatus, also embrace physiological pieces, laboratories will not multiply, and the science be taught with the completeness that its importance demands.

BOTANISTS, particularly those of the upper Mississippi valley, have been watching with considerable interest the formation of the faculty of the new Chicago University. Hopes have been raised, as we noted the high scholarship and particularly the high degree of specialization of the men that were being appointed, that the chair of botany would be filled with some specialist of repute, and that thus the new institution would set the pace for some of the older ones that have shown themselves laggards.

BUT WE CONFESS that it was with a feeling of sore disappointment that we read in the Chicago papers of the appointment of a professor of "biology." Apparently it is to be the old story of zoölogy masquerading in borrowed plumage as biology, for the gentleman who has been appointed is a well-known zoölogist. As to his qualifications on the botanical side we know nothing, but we do know that no one man can teach biology properly in such an institution as the Chicago University bids fair to be. It would be a difficult feat for one man to teach zoölogy alone or botany alone, as it should be taught; to ask him to teach both, savors too much of the time when a man could be "professor of natural science."

IT IS SINCERELY to be hoped that President Harper will see to it that the chair of biology is divided before zoölogy teaching comes to stand for biology in the institution from which we expect so much. If this

is not done we shall not be surprised to have an early announcement similar to that in the December number of the *American Naturalist*, in which appears the naive item — we are sure our readers will appreciate its fine humor — “Prof. C. H. Gilbert is professor of *Vertebrate Biology* in Leland Stanford University.”

IN THIS CONNECTION we are much pleased to note the establishment of a new chair of histology and cryptogamic botany at Cornell University. This is a move in the right direction.

CURRENT LITERATURE.

Kuntze's “*Revisio Generum Plantarum*.”¹

This is one of the most ambitious botanical works of recent years, and has involved a prodigious amount of labor. However botanists may differ as to its conclusions, they must always be grateful for the vast amount of facts thus brought together. It is becoming more and more apparent that the nomenclaturists are not to agree with each other, at least until another congress has definitely established a datum line. In the meantime the systematist who is not a nomenclaturist feels inclined to reserve his opinion until the dust has settled somewhat and things can be seen more clearly. When all the ancient records have been searched, and books like those before us have become numerously multiplied, and confusion worse confounded reigns, some one will begin to bring order out of chaos, stability out of upheavals. There is no desire here to criticize the efforts of nomenclaturists, of whom Dr. Kuntze seems to be the bright consummate flower, but to emphasize the fact that we are still in the period of “stirring up,” not of “settling.” Devoid of all principles, sound or otherwise, we hold ourselves in readiness to accept and use any name which gives promise of a reasonable tenure of life.

The GAZETTE has often given, and still maintains the opinion that the necessary changes in nomenclature should never be attempted in this wholesale fashion, but that they should be made by monographers, who have an abundance of material before them and know whereof they speak.

The volumes before us are such as will demand consultation by all those who deal in phytography. The wealth of reference is marvel-

¹ KUNTZE, OTTO.—*Revisio Generum Plantarum vascularium omnium atque cellularium multarum secundum leges nomenclaturæ internationales cum enumeratione plantarum exoticarum in itinere mundi collectarum.* 2 vols. 8 vo. pp. clxvix, 1011. Leipzig, London, Milan, Paris, New York (Gust. E. Stechert, 828 Broadway), 1891.